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Great Britain and Ireland, and of the other countries which fish in the North Atlantic Ocean, and the North Sea and its bays.

It is properly a subject for national consideration, for the reason that it is the general public—including the consumers, as well as the fishermen, dealers and distributors—which ultimately receives the benefit of the food fisheries, and it is this entire general public which suffers from any conditions which tend to diminish the proper and normal yield of the fisheries, and to enhance the price of fish in the markets of the interior cities and towns, where marine fish, either fresh or salted, cured or otherwise prepared, are bought.

The people of the United States have drawn millions of wealth from the sea. There should be willingness to devote a small proportion of this to provide for a satisfactory maintenance of this source of wealth. The total catch of marine food fish in the New England States and Maritime Provinces was valued, in the hands of the fishermen, at upwards of \$20,000,000.

In the preparation of this report we have examined the stomach contents of more than 674 dogfish which have been freshly caught. In most cases the stomach was filled with finely comminuted fish, apparently of valuable market species or of bait, and with nothing else except in two cases.

The word "exterminate" has been misused in ordinary discussions of the dogfish problem. Extermination is impracticable, even if not impossible. The only aim can be to limit the rate of increase by catching the greatest possible number of individuals, especially of the adults. Conditions must be developed which should make it for the immediate pecuniary advantage of the fishermen to market every dogfish, both large and small, which can be caught; thus the fishermen may be induced to work for the advantage of their successors. The present and future public which will benefit most should pay the expense, just as today the public pays the expense of dogfish to fishing gear.

The facts indicate that the dogfish as a species is actually increasing in numbers; and until some natural or artificial check upon its increase arises, the damage done to the wealth-producing capacity of the North Atlantic will extend rather than lessen.

The causes of these increased numbers of dogfish are difficult to ascertain. There appears no very obvious diminution in the numbers of the enemies of the dogfish. They are not known to be subject to any special epidemics, as are many other fish. Their capture has been even avoided to the utmost possible extent. It is a general practice to seek new fishing grounds when the dogfish strike. Thus the dogfish has been practically immune from capture. Other species have in many cases decreased in numbers. In no other case which the writer now recalls has there been a marked and certain increase. The dogfish, thus freed from a part of the competition, and so much better able to secure food, has multiplied in all sections of its range. The fishermen are largely responsible for this, though chiefly on account of the absence of knowledge and experience with such problems.

Of all the suggestions made for checking the incursions of dogfish, the one which offers most advantageous features to all parties concerned,—to the public, which now pays a higher price for fish than would be otherwise necessary; to the fishermen, who now lose much time and suffer annoyance and damage from the voracity of the dogfish; to the capitalists, who find the interest on their investments cut by the loss of gear and time,—is the development of an economic demand for dogfish. A bounty of a fixed sum for each dogfish destroyed, paid either directly to the fishermen, or, what would practically amount to the same thing, a subsidy or "protection" (protective tariff) to every industry based upon economic utilization of the dogfish or dogfish products.

There is another phase, and perhaps the most important asset in the dogfish problem, viz., its availability as a cheap and wholesome

food. From personal experience we can give testimony to its satisfactory taste, lack of odor or "strength," and its consistency when cooked or canned. It has, when canned, a distinctly obvious lobster flavor, together with a certain salmon impression, so that from the taste it can best be compared to a mixture of canned lobster and canned salmon. When cut into steaks and fried, it closely resembles halibut. Its freedom from bone makes it especially safe as a food for children or for aged persons.

There would appear to be unlimited possibilities for developing a business in specially prepared brands of food, wherein the dogfish may be combined with rice, potatoes, etc., making "canned fish balls, all ready to fry," etc., after the manner of "fish cheese" now being much used in Newfoundland and Nova Scotia. The inferior cuts of meat can be converted into a food for growing poultry, pigs, etc. Objection may be raised to the fact that fish food may tend to affect the taste of meat when marketed. This is true of other foods besides fish, but it can be obviated by the proper method of feeding. On the coast of Nova Scotia dogfish are dried and fed to

horses. "One every three days brightens the coat."

It does not seem probable that in New England and the Middle Atlantic states any favorable market can be developed for dogfish as food; and no encouragement should be given to put dogfish on the market under the name of halibut or other staple fish, or under any misnomer whatever. The supply of staple fresh fish is at present abundant, adequate, and satisfactorily cheap in price.

There are in Massachusetts few canneries where the fish might be utilized; though in the states to the south of us dogfish might be canned when cysters, etc., were not available for the canneries. In this section the demand rather points towards currying oil, poultry, food and fertilizer; and the logical plan would appear to be the development of some economical method of making the catching and sale of both large and small dogfish sufficiently remunerative to induce the fishermen to bring in the dogfish along with the cod, haddock, pollock, mackerel and other valuable fish.

In closing, renewed emphasis should be laid upon the importance of devising and putting into practical operation some plan whereby the fishermen may receive proper remuneration for the time, labor and capital necessary to bring the dogfish ashore, where the bodies may be made of economic value, thus, by killing, to check the increase of this destructive fish, which is rapidly becoming an additional "white man's burden."

Whatever system may be adopted for controlling this evil cannot be expected to exterminate the dogfish. Yet, if the problem is thoroughly canvassed in all its details and wisely worked out, unquestioned economic value can be attained at a cost merely trifling, when ranged alongside the accruing benefits.

From the wide distribution of the dogfish and its migratory habits, a union of efforts along similar lines will be most advantageous; thus with our Northern neighbors, Canada and Newfoundland, we have reciprocal interests in this matter, even if we have no treaties of reciprocity. The type of continental free trade carried on by the dogfish race is immensely prejudicial to the productive economic capacity of the ocean and must be controlled by as rigorous efforts as are applied to terrestrial pests.

The information which we have secured in the preparation of this report compels us to range ourselves with those who are of the opinion that these matters demand national consideration. The actual amount of damage done to the Massachusetts fisheries is a serious handicap to the prosperity of an industry which is a great source of national wealth, and the nursery of our national navy. Similar conditions obtain in Newfoundland, Canada and Great Britain and are of sufficient im-

portance to warrant an international commission, which may determine upon a concert of effort to control this economic plague.

Finally, we call renewed attention to the following facts:

The annual damage by dogfish to marketable fish and fishing gear owned in Massachusetts is not less than \$400,000.

This damage falls directly upon the fishing industry, but indirectly and ultimately upon the purchasing public.

The inroads of the dogfish upon the profits of the fishermen have at present a decided tendency to drive capable men from our maritime industries. If this continues, the difficulty of securing men for the navy will be greatly augmented. (Massachusetts now furnishes more men than any other state except New York.)

The theory and practice of subsidies and protection to "infant industries" is prominent in the development of these United States. Our fishing industry is today sorely in need of a small degree of protection, through a subsidy, bounty or other governmental assistance, whereby an industry may be established which shall make the capture of dogfish as profitable as is the capture of the staple market fish.

ANTIQUITY OF FISHING.

The Art of Angling Is as Old as the Human Race.

The art of angling no doubt had its origin in man's necessities. The earliest record of mankind makes reference to the taking of fish for food. There are frequent allusions to it in the Bible. Job, in the oldest book of all, says: "Canst thou draw out a leviathan with a hook or his tongue with a cord which thou lettest down? Canst thou put a hook in his nose?" Homer, in the "Iliad," speaks of fishing in these lines:

As bearing death in the fallacious bait,
From the bent angle sinks the leaden weight.

And it is recorded in the "Odyssey":

As when the angler, his long rod in hand,
On a projecting rock assumes his stand,
Casts to the fiery fry the baited snare,
Then flings the wriggling captives in the air.

The Romans, Greeks and other races of early days around the Mediterranean practiced the art of angling. Plutarch tells of a prank played by the fair Egyptian, Cleopatra, while out fishing with Antony. "They wagered on their angling, and her divers did hang a salt fish on his hook, which he with fervor drew up."

The ruined walls of Heracleum and Pompeii abound in frescoes of fishermen. All along the track of history are found traces of this gentle recreation, showing the gradual improvement from the hook of bone and rude equipment of the cave man to the elegant accessories and belongings of the modern angler.

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\$45,000 BAIT COMPANY.

New Concern Incorporated Under Laws of Maine.

The Sheepscot River Trap and Bait Company is the title of a new concern incorporated under the laws of Maine to carry on a general fish and trap business. The capital stock is \$45,000, par value \$10 each. The officers are as follows: President, Capt. Eben T. Lewis; clerk, Will T. Marr; directors, Capt. Eben T. Lewis, Capt. Benj. H. Spurling, J. S. Seavey, Hardy McKown, L. A. Danton, M. A. Perkins, W. M. Sawyer, W. T. Marr and W. T. Holton. The plant will be at Boothbay Harbor, and promises to be one of the largest business enterprises in that section.

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Halibut Sale.

The fresh halibut fare of sch. Monitor was sold to the New England Fish Co. at 11 cents per pound for white and 7 1-4 cents for gray.

DAILY TIMES FISH BUREAU.

To-day's Arrivals and Receipts.

Sch. Squanto, returned.
Sch. Dictator, returned.
Sch. Fame, via Boston, 25,000 lbs. fresh fish.
Sch. Natalie J. Nelson, via Boston, 30,000 lbs. fresh fish.
Sch. Belbina P. Domingoes, shore.
Sch. Flora J. Sears, shore.
Sch. Minerva, shore.
Sch. John M. Keen, shore.
Sch. Oliver F. Kilham, shore.
Sch. Mattie Brundage, shore.
Sch. James W. Parker, via Portland.
Sch. Richard J. Nunan, shore.

Today's Fish Market.

These prices are based on the last known sales.

Salt handline Georges codfish, \$5.25 per cwt. for large, \$4.25 for medium.
Salt trawl Georges codfish, \$5 for large, 4.00 for medium.
Salt hake, \$1.25.
Salt haddock, \$1.75.
Salt cusk, \$2.50.
Salt trawl bank codfish, \$4.50 for large, \$3.50 for medium, \$2.50 for snappers.
Newfoundland salt herring, in bulk, \$4.50 per bbl.
Newfoundland salt herring, barrelled, \$5.75 per bbl.
Newfoundland frozen herring for bait, \$3.00 per cwt.
Shore frozen herring, for bait, \$2.50 per cwt.
Fresh halibut, 11 cents per lb. for white and 7 1-4 cents for gray.
Splitting prices of fresh fish, large cod, \$2.25 medium cod, \$1.37 1-2; haddock, 90 cts; hake, 85 cts; cusk, \$1.40; pollock, 65 cts.

Boston.

Sch. Manomet, 8000 haddock, 1000 cod.
Sch. Mary E. Silveira, 16,000 haddock, 200 cod, 2000 hake.
Sch. Mertis H. Perry, 1300 haddock, 2000 cod.
Sch. Valentina, 23,000 cod.
Sch. Kernwood, 10,000 haddock.
Sch. Olive F. Hutchins, 8000 haddock, 500 cod.
Sch. Stranger, 8000 haddock, 1000 cod, 500 hake.
Sch. Mattakesett, 6000 haddock, 700 cod.
Sch. Sylvia M. Nunan, 8000 haddock, 1000 pollock.
Sch. Ida M. Silva, 8000 haddock, 1000 cod.
Sch. Pythian, 8000 haddock, 1000 cod.
Sch. Walter P. Goulart, 8000 haddock, 2000 cod.
Sch. Emily Cooney, 7000 haddock, 8000 cod, 1000 hake.
Sch. Mary E. Cooney, 7000 haddock, 2000 cod.
Sch. Alice M. Guthrie, 50,000 haddock, 500 cod.
Sch. Estelle S. Nunan, 10,000 cod.
Sch. Sadie M. Nunan, 10,000 haddock, 1500 hake.
Sch. Mildred V. Nunan, 12,000 haddock, 2000 cod.
Sch. Flavilla, 7000 haddock, 500 cod, 500 hake.
Sch. Elsie F. Rowe, 4000 haddock, 1000 cod.
Steamer Quartette, 4000 haddock.
Sch. Nokomis, 18,000 cod.
Sch. Seacomet, 20,000 haddock, 4000 cod.
Haddock, \$1.10 to \$2.60; large cod, \$3 to \$4; market cod, \$1.50 to \$2; hake, \$1 to \$3; pollock, \$3.

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Halibut Trip at Portland.

The Portland Press of yesterday said: "The greatest amount of halibut to be landed here at one time for a year was taken out at Commercial wharf this morning. The trips were brought in by three schooners and the aggregate amount was 27,000 pounds. The greater part of this lot was taken by J. W. Trefethen, although John Lovitt & Son took out sch. Teaser's. The schooners were the William H. Moody, with 6000 pounds, Arthur D. Story, with 11,000 pounds, and Teaser with 10,000 pounds. The fish were handsome, large ones, and in the best of shape. All three schooners came in today coated with ice and recalling most vividly the conditions of one year ago."

A telegram received here says the Moody had 12,000 pounds.

Fishing Fleet Movements.

Sch. Vigilant has fitted for halibuting under command of Capt. Ernest Engstrom.

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HANDLINERS IN LUCK.

Three at Portland Today with Fine Halibut Fares.

Three Georges handliners from this port are certainly in luck today. One is sch. W. H. Moody, and, with two others, she is at Portland this morning with a fine fare of fresh halibut besides some salt cod. The two others also have nice fares of halibut, the catch of the three aggregating 30,000 pounds.

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Good Stock.

Sch. Cavalier, Capt. Robert B. Porper, stocked \$4033.39 as the result of her recent big halibut trip, the crew sharing \$89.39. The vessel carries nine dories, or 20 men, otherwise with the regulation eight dories the share would have been about \$100. The stock is the largest of the season in the fresh halibut fishery.

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ANOTHER BANKER SAILED.

Sch. Maxine Elliot Second of the Fleet To Get Away.

Sch. Maxine Elliot, Capt. Fred. Upshell, sailed this noon on a salt bank trip, only a short time after sch. Judique, the first of the salt bankers to sail.

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Louisburg, C. B., Oodfishery.

The cod fishery will be prosecuted on a more extensive scale from Louisburg, C. B., this season than for many years past. Of late fishermen have devoted their attention mainly to lobster fishing during the early part of the season. The scarcity of lobsters and the present high prices ruling for codfish will induce many to give up the lobster fishing and devote their whole attention to codfishing.

Whalers Off Provincetown.

A whale, supposed to be a right whale, was seen off Provincetown harbor entrance the past week. A school of finbacks, eight or ten in number, was sighted off the shoal ground, at Wellfleet, a few days ago.

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Quick Halibut Trip.

After being out but 17 days, sch. Agnes, Capt. James Goodwin, arrived here during the night from Quero Bank with 35,000 pounds of halibut and 3000 pounds of salt cod. This is one of the quickest trips of the season and means a fine stock and share in double quick time for Capt. Goodwin and his men.

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Newburyport has for the

SCARCITY time being given up the idea of attempting any step toward the protection of the clam. A largely attended hearing was held in that city the other evening before the board of aldermen, when various opinions were expressed, the unanimous thought appearing to be that something should be done to help make the industry return to its old time stage of prosperity, when there were no scarcity of bivalves.

The sense of the meeting was that something should be done to regulate the method of marketing clams so as to prevent the taking of seed bivalves. This idea was not carried any further, owing to an opinion from the attorney general which stated that under the present shell fish law, regulations can be made relative to the times and methods of taking, but no action can be taken regarding the marketing, as to whether these clams should be used for "steamers" or otherwise.

Some consolation was received from the state board of fisheries and game, which, in a letter read before the hearing, stated that it was making investigations to ascertain exactly what methods are best to adopt for increasing the yield of the clam flats, and it was hoped by another season, if conditions are favorable, to make a report. The board has been making tests in various sections, including among the beds of Anni-quam river, and it is earnestly hoped that something tangible may be determined upon, so that the clam flats, once teeming with luscious bivalves, may be restored to their former condition.

The clam business on Cape Ann, in the past, has been the source of considerable revenue in the course of a year to many men. Now, however, it is difficult to find digging that is at all remunerative, and in many cases diggers have entirely abandoned the vocation.

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DAILY TIMES FISH BUREAU.

To-day's Arrivals and Receipts.

Sch. Agnes, Green Bank, 3000 lbs. salt cod, 35,000 lbs. halibut.
Sch. Yakima, via Boston.
Sch. Mary E. Cooney, via Boston.

Today's Fish Market.

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Splitting prices of fresh fish, large cod, \$2.25 medium cod, \$1.37 1-2; haddock, 90 cts; hake, 85 cts; cusk, \$1.40; pollock, 65 cts.

Boston.

Sch. Gov. Russell, 25,000 haddock, 1000 cod, 1000 hake.
Sch. Mary C. Santos, 17,000 haddock, 1000 cod.
Sch. Mary Edith, 11,000 haddock, 800 cod.
Haddock, \$1.10 to \$2; large cod, \$3.50; market cod, \$2; hake, \$1 to \$3; pollock, \$3.